

Title (en)  
Laser interferometer.

Title (de)  
Laserinterferometer.

Title (fr)  
Interféromètre à laser.

Publication  
**EP 0431792 A2 19910612 (EN)**

Application  
**EP 90312613 A 19901120**

Priority  
GB 8926574 A 19891124

Abstract (en)  
A laser interferometer uses an acousto-optically modulated laser (100) to produce a pair of orthogonally polarized frequency-shifted beams. The beams are passed down a monomode, polarization preserving optical fibre (110) in order to transmit the beams to a cavity (148). The beams are separated at polarizing beam splitter (128) and directed down measuring arm (130) and reference arm (132) of an interferometer. The beat frequency between the reflected beams is detected at photo-detector (146) which outputs a measuring signal (152). This beat frequency is compared to the beat frequency of the beams before entering the interferometer, which is derived by providing a semi-silvered mirror (114) and interfering polaroid (116) in the path of the beams up-beam of the interferometer to produce a reference signal (126). The measuring and reference signals are compared to determine the movement of the measuring arm of the interferometer. This method of determining the reference signal makes the apparatus less susceptible to temperature changes.

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**G01B 9/02**

IPC 8 full level  
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